

PROGRESS IN BIOMEDICAL OPTICS AND IMAGING
Vol. 21 No. 14

Optics and Ionizing Radiation

Brian W. Pogue
Editor

3 February 2020
San Francisco, California, United States

Sponsored and Published by
SPIE

Volume 11224

Proceedings of SPIE, 1605-7422, V. 11224

SPIE is an international society advancing an interdisciplinary approach to the science and application of light.

The papers in this volume were part of the technical conference cited on the cover and title page. Papers were selected and subject to review by the editors and conference program committee. Some conference presentations may not be available for publication. Additional papers and presentation recordings may be available online in the SPIE Digital Library at SPIEDigitalLibrary.org.

The papers reflect the work and thoughts of the authors and are published herein as submitted. The publisher is not responsible for the validity of the information or for any outcomes resulting from reliance thereon.

Please use the following format to cite material from these proceedings:

Author(s), "Title of Paper," in *Optics and Ionizing Radiation*, edited by Brian W. Pogue, Proceedings of SPIE Vol. 11224 (SPIE, Bellingham, WA, 2020) Seven-digit Article CID Number.

ISSN: 1605-7422
ISSN: 2410-9045 (electronic)

ISBN: 9781510632110
ISBN: 9781510632127 (electronic)

Published by

SPIE

P.O. Box 10, Bellingham, Washington 98227-0010 USA
Telephone +1 360 676 3290 (Pacific Time) Fax +1 360 647 1445
SPIE.org

Copyright © 2020, Society of Photo-Optical Instrumentation Engineers.

Copying of material in this book for internal or personal use, or for the internal or personal use of specific clients, beyond the fair use provisions granted by the U.S. Copyright Law is authorized by SPIE subject to payment of copying fees. The Transactional Reporting Service base fee for this volume is \$21.00 per article (or portion thereof), which should be paid directly to the Copyright Clearance Center (CCC), 222 Rosewood Drive, Danvers, MA 01923. Payment may also be made electronically through CCC Online at copyright.com. Other copying for republication, resale, advertising or promotion, or any form of systematic or multiple reproduction of any material in this book is prohibited except with permission in writing from the publisher. The CCC fee code is 1605-7422/20/\$21.00.

Printed in the United States of America by Curran Associates, Inc., under license from SPIE.

Publication of record for individual papers is online in the SPIE Digital Library.

**SPIE. DIGITAL
LIBRARY**

SPIEDigitalLibrary.org

Paper Numbering: *Proceedings of SPIE* follow an e-First publication model. A unique citation identifier (CID) number is assigned to each article at the time of publication. Utilization of CIDs allows articles to be fully citable as soon as they are published online, and connects the same identifier to all online and print versions of the publication. SPIE uses a seven-digit CID article numbering system structured as follows:

- The first five digits correspond to the SPIE volume number.
- The last two digits indicate publication order within the volume using a Base 36 numbering system employing both numerals and letters. These two-number sets start with 00, 01, 02, 03, 04, 05, 06, 07, 08, 09, 0A, 0B ... 0Z, followed by 10-1Z, 20-2Z, etc. The CID Number appears on each page of the manuscript.

Contents

v	<i>Authors</i>
vii	<i>Conference Committee</i>

NUCLEAR MEDICINE AND OPTICS

11224 07	Intraoperative specimen assessment in prostate cancer surgery using Cerenkov luminescence imaging [11224-7]
11224 09	In vivo bioluminescence tomography-guided radiation research platform for pancreatic cancer: an initial study using subcutaneous and orthotopic pancreatic tumor models [11224-9]

NOVEL DETECTORS AND IMAGING SYSTEMS

11224 0C	Nanosecond scanned x-ray sheet imaging for time-resolved luminescence tomography [11224-12]
11224 0D	Cherenkov emission from external beam irradiation: proportional to the dose buildup gradient and inversely affected by tissue optical attenuation [11224-13]
11224 0E	Effect of external magnetic field on the collected Cherenkov radiation by fiber optic dosimeters [11224-14]

HIGH RESOLUTION X-RAY/OPTICAL IMAGING

11224 0F	X-ray luminescence imaging for small animals (Invited Paper) [11224-15]
11224 0I	Improve depth reconstruction for Cherenkov-excited luminescence scanned tomography [11224-18]

POSTER SESSION

11224 0J	Growth kinetics of the EBT3 and EBT-XD films response in radiotherapy beams [11224-19]
11224 0K	Quantification of osteosarcoma mineralization on plain radiographs: novel software applications to assess response to chemotherapy [11224-20]